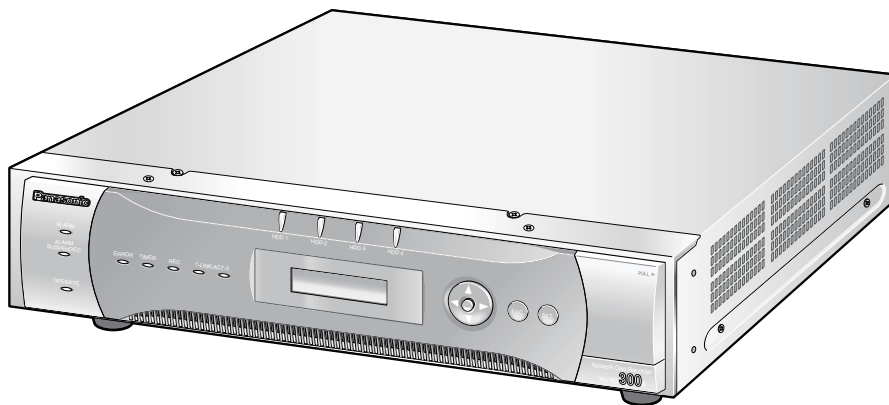**Panasonic**

Digital Disk Recorder

WJ-ND300 SATA conversion guide (Single)

22. Jan. 2009

System Solutions Company

1. Outline

This guide describes how to convert the hard disk drive installed in the WJ-ND300, ND300A from PATA type to SATA type.

2. Preparation

Following items are required for the SATA conversion.

(1) Screwdriver

(2) Wrench for hexagonal nut (5.5m/m)

(3) 2 Cable ties

(4) SATA HDD: Refet to the HDD compatibility chart in the BIG-WEB site.

(5) SATA conversion kit (0E0A0060AA)

Part name	Part number	Quantity
SATA Board Ass'y	JN30AJKY4A	4
SATA cables	K1V224Y20004 (SATA cable: Red, Power cable: Red/Blue) K1V224Y20005 (SATA cable: Gray, Power cable: Red/Yellow) K1V224Y20006 (SATA cable: Red, Power cable: White/Purple) K1V224Y20007 (SATA cable: Gray, Power cable: White/Orange)	1 each
SATA board mounting bracket	3CA006029AAA	1
Heat sink	3KA001346AAA	1
Cool sheet	3KB001292AAA	1
Cord clamp	FCA16	9
Hexagonal spacer 7 mm	1CJ001311AAA	3
Wafer-head screw	3AA000001AAA	2
Screw with washer	XYN3+F8FJ	4
Caution label	3PC001235AAA	1
HDD Caution label	3PD003138BAA	1
SATA Cable label	3PD003960AAA	1
SATA label, small (for front)	3PD003840AAA	1
SATA label, large (for top)	3PD003841AAA	4
SATA Leaflet	3TU001977AAA	1
SATA conversion leaflet	ND300PSATARB	1

3. Replacement Procedure

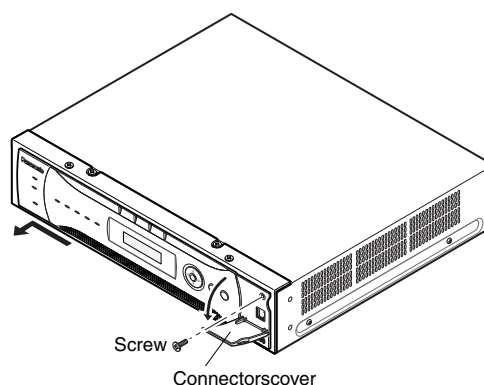**Important** +++
- Power off the unit and disconnect from the mains power supply before carrying out this work.
- Do not detach the cable connecting the unit and the front panel while the HDD status indicators are still lit or until 30 seconds have passed since the HDD status indicators went off.
- Protect the hard disk drives from static electricity.
- Do not stack them, or keep them upright.
- Do not use an electric screwdriver to fix them. (Tightening torque: Approx. 0.49 N · m (5 kgf · cm))
- Avoid rapid changes in the temperature/humidity to prevent condensation. (Acceptable change: within 15°C/h (59 °F/h))

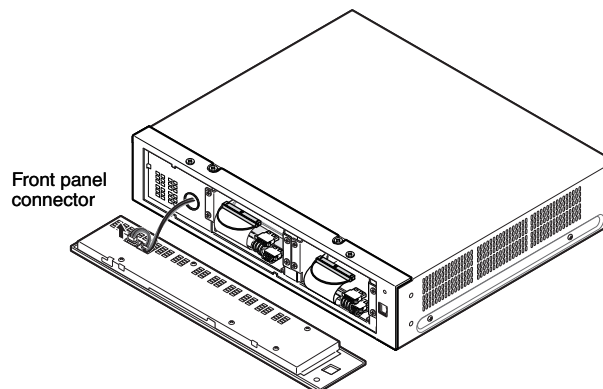++

(1) Open the connectors cover on the front panel and remove the fixing screw.
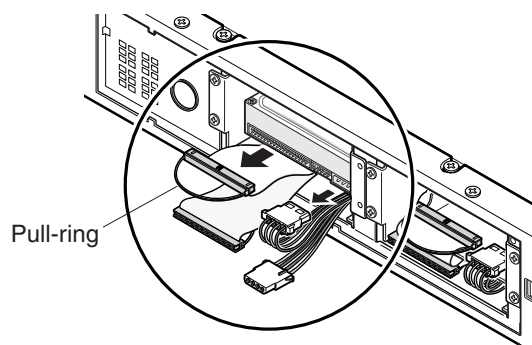Detach the front panel by sliding it after removing the screw.

Screw

Connectorscover

(2) Disconnect the connector from the front panel.

Front panel connector

(3) Disconnect four ATA cables and four HDD power cables of all HDDs.

Note: When disconnecting the ATA cables, pull the pull-ring slowly and straightforward.

Pull-ring

Important ++

The HDDs should be installed in the correct positions in the order as shown right. Do not skip a drive position or reverse the order of the HDD positions. Incorrectly placed drives will result in the recorder not recognizing the extension unit or the drives.
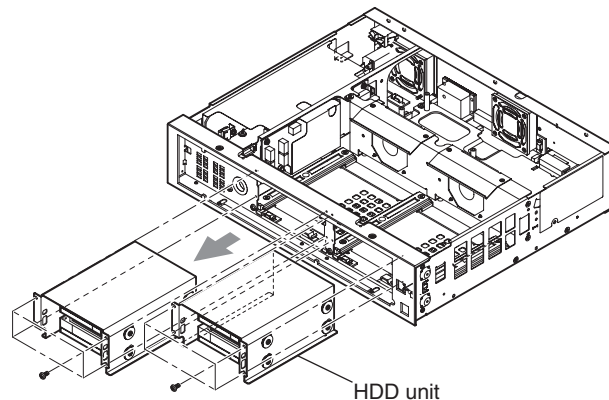
Inside the front cover

HDD #1 slot : HDD1	HDD #2 slot : HDD2
HDD #3 slot : HDD3	HDD #4 slot : HDD4

++
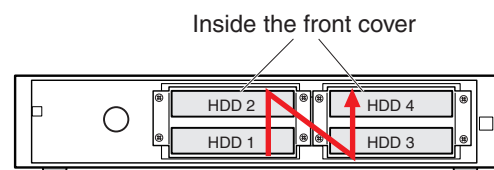
(4) Remove 11 screws that fix the top cover to the main unit, and then remove the top cover.
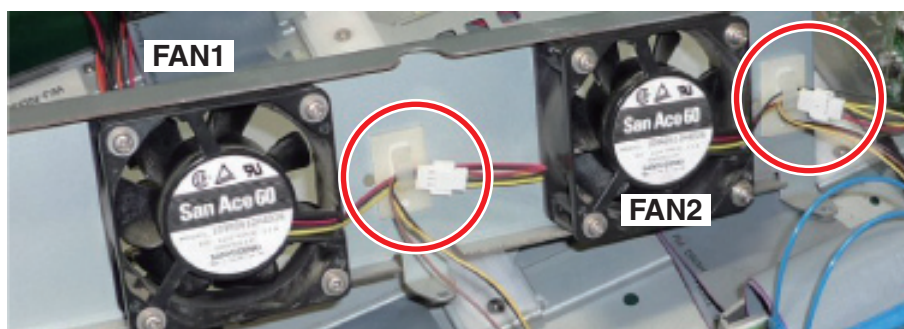
Top cover
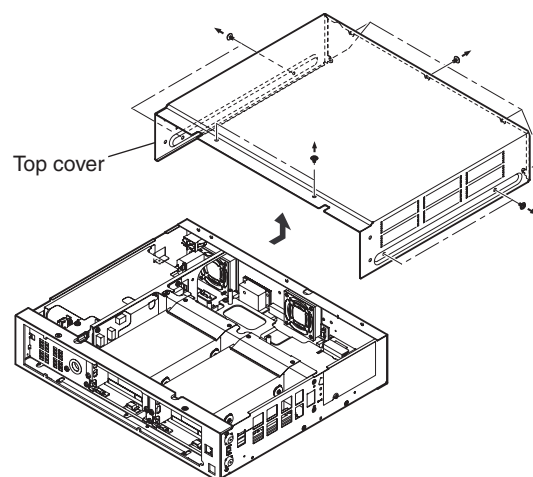
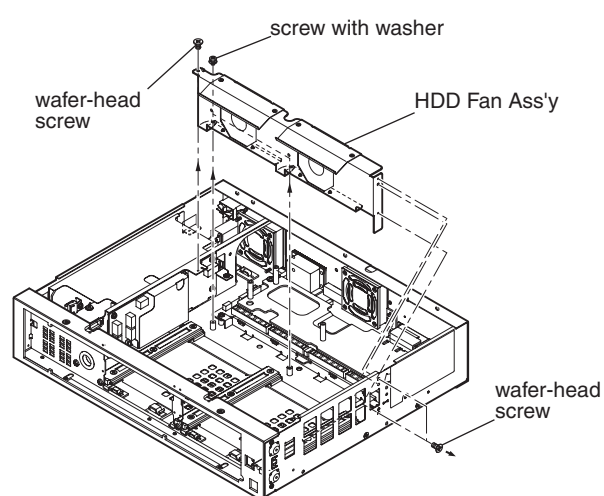(5) Remove eight screws fixing the HDD unit, pull out the unit.

HDD unit

(6) Remove the screws (four pieces each) fixing the HDDs, the sleeves and dampers and then remove the HDDs.

Damper

Sleeve
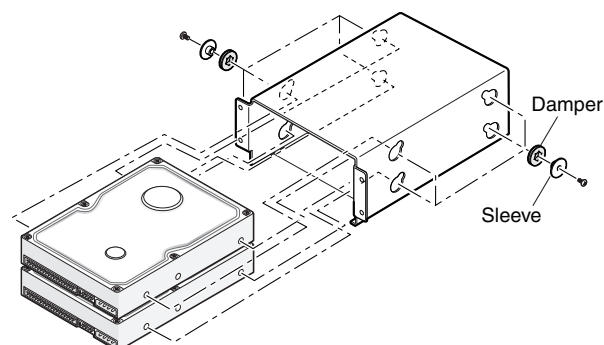
(7) Release the radiator fan cable from two cord clamps attached to the HDD Fan Ass'y, and disconnect respective Junction connectors, and remove the HDD Fan Ass'y.


(8) Remove five screws (3x wafer-head screw, 2x screw with washer) fixing the HDD Fan Ass'y and then remove the HDD Fan Ass'y.

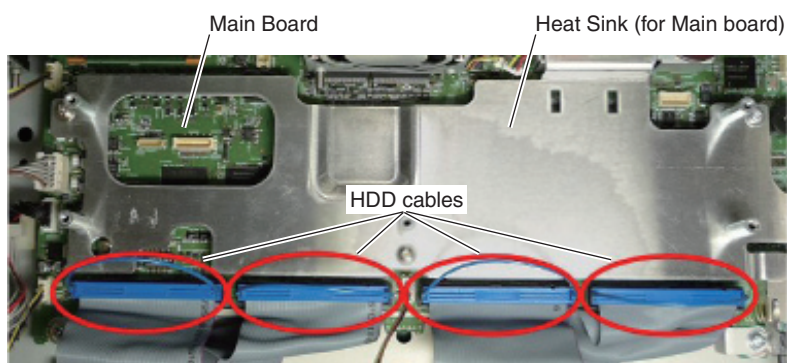(9) Remove six screws (wafer-head screws) fixing the HDD unit guide rail, and remove three HDD unit guide rails.
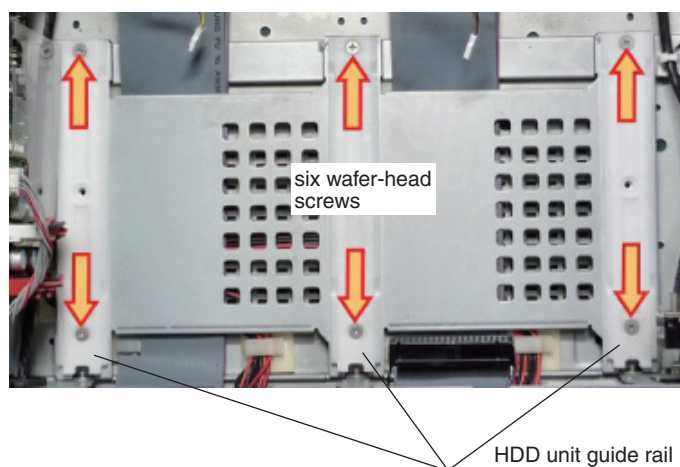
(10) Remove seven inside screws (wafer-head screws) and three front screws (binding screws) that secure the bottom plate, and remove the bottom plate.
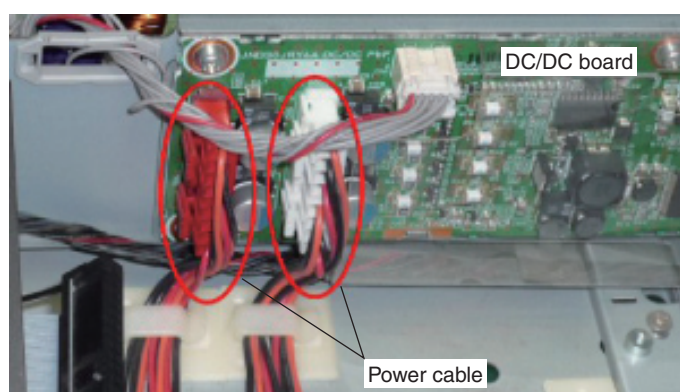

seven wafer-head screws

Bottom plate

wafer-head screw

HDD unit guide rail

Bottom plate

binding screw
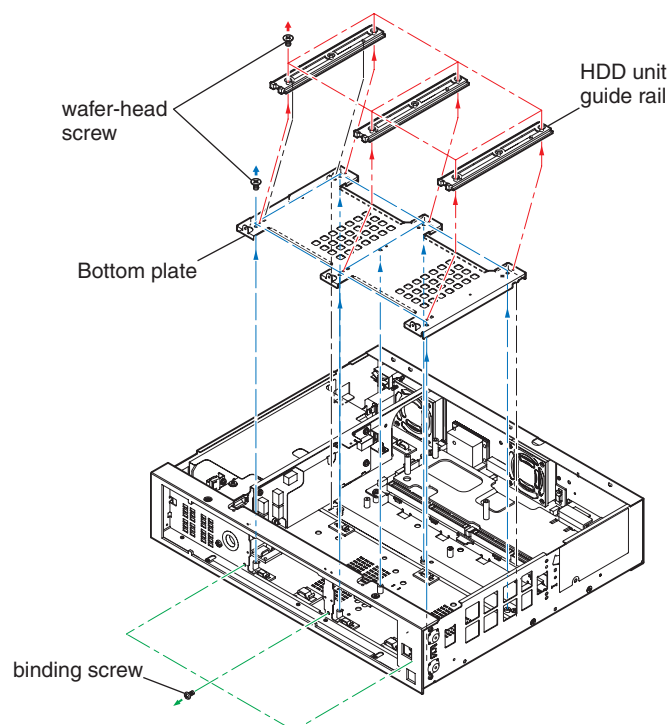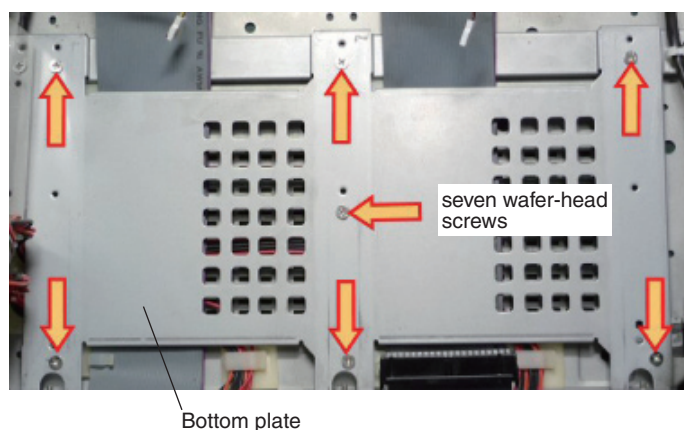
(11) Disconnect four HDD cables from the Main board, and release the cables from the HDD cable clamps, and then remove the HDD cables.

Note: Discard the removed HDD cables.

Main Board

Heat Sink (for Main board)

HDD cables

(12) Disconnect four power cables from the DC/DC board, and remove the power cables.

Note: Discard the removed HDD cables.

DC/DC board

Power cable

(13) Remove four screws (1x wafer-head screw, 3x screw with washer) fixing the Heat Sink (for Main board), and remove the Heat Sink (for Main board).
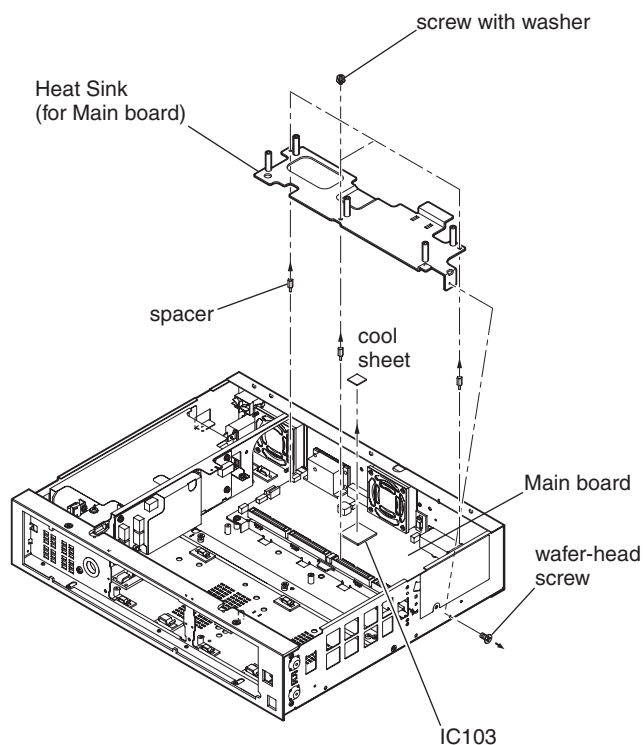
Note: Discard the removed Heat Sink.

(14) Remove the cool sheet from the Main board (Center of IC103).

Note: Discard the removed cool sheet.

(15) Remove the three spacers from the Main board.

Note: Discard the removed spacers.

screw with washer

Heat Sink
(for Main board)

spacer

cool
sheet

Main board

wafer-head
screw

IC103

(16) Secure the heat sink (for Main board) to the SATA board mounting bracket with additional two screws.

additional two screws
(wafer-head screw)

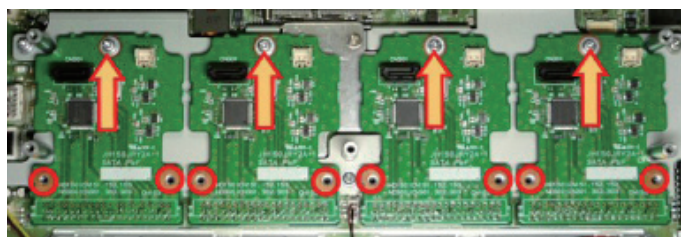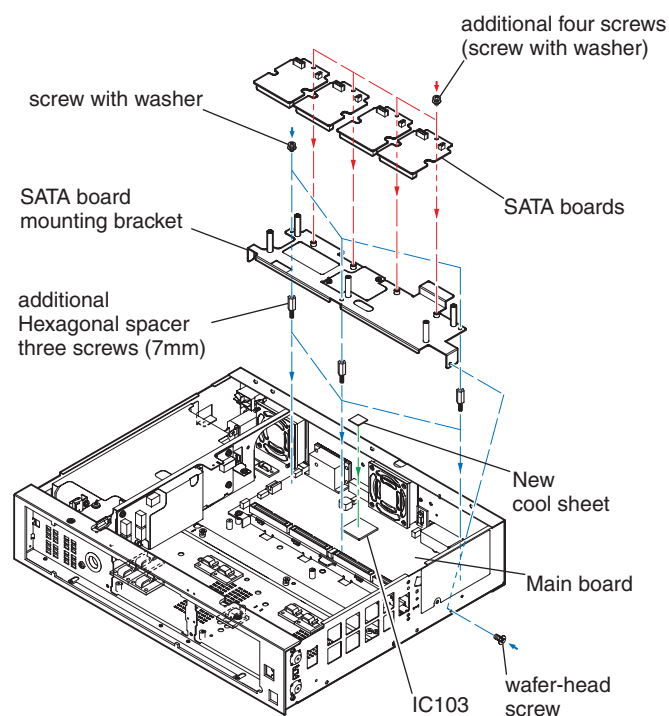Heat Sink
(for Main board)

SATA board
mounting bracket
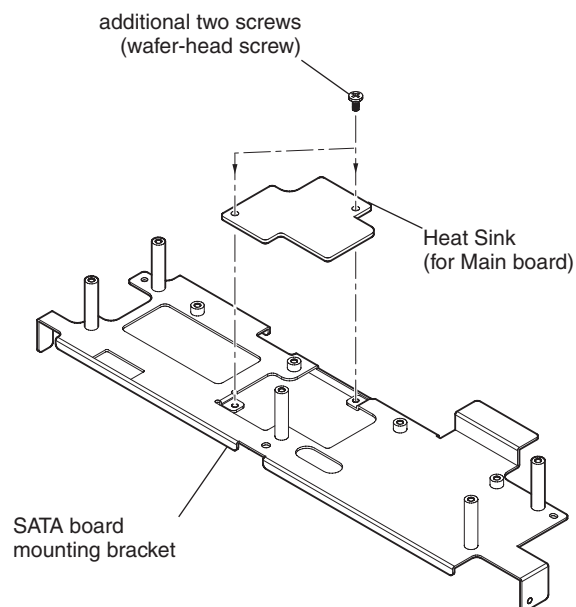
(17) Install three additional hexagonal spacers (7mm).

(18) Attach the new cool sheet to the Main board (Center of IC103).

(19) Meeting the hexagonal spacers, install the SATA board mounting bracket with four screws (1x wafer-head screw, 3x screw with washer).

(20) Install the SATA board with additional four screws.

**Note:** Circled tapped holes on the SATA connector side are not necessarily screwed.

additional four screws (screw with washer)

screw with washer

SATA board mounting bracket

SATA boards

additional Hexagonal spacer three screws (7mm)

New cool sheet

Main board

IC103

wafer-head screw

(21) Remove two cord clamps from the HDD Fan Ass'y, and attach four new cord clamps.

**Note:** Peel off the double-sided tape, not leaving any portion.

Attach four new cord clamps

Remove two cord clamps

HDD Fan Ass'y

20mm

unites with a left end.

10mm

10mm
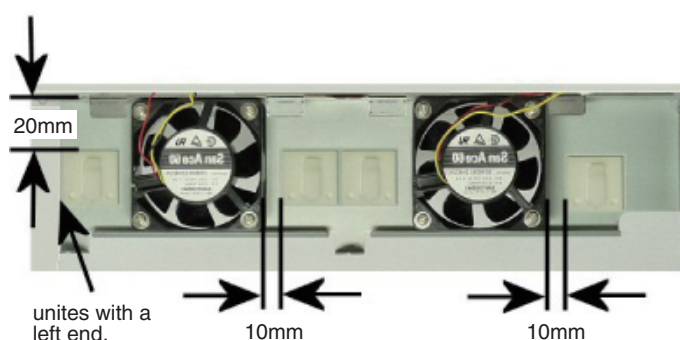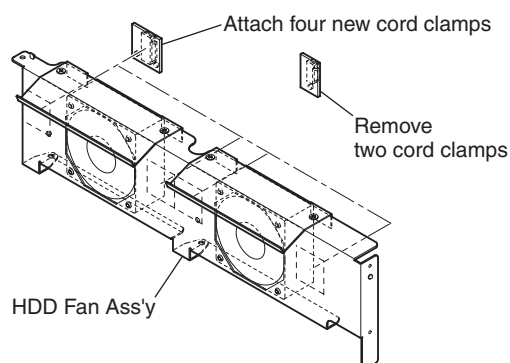
(22) Remove six cord clamps from the bottom of main unit chassis.

Remove six cord clamps
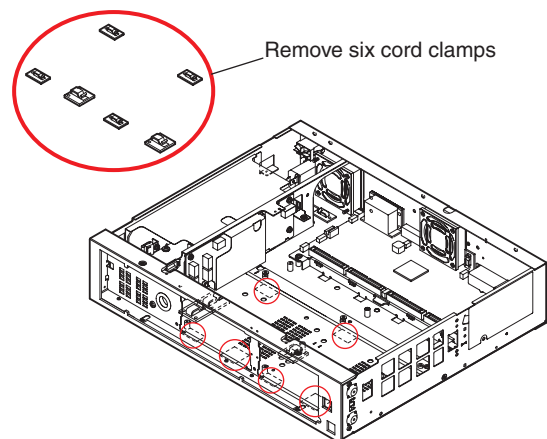
(23) Attach five new cord clamps.

New cord clamps

Approx. 10mm

Approx. 80mm

Approx. 210mm
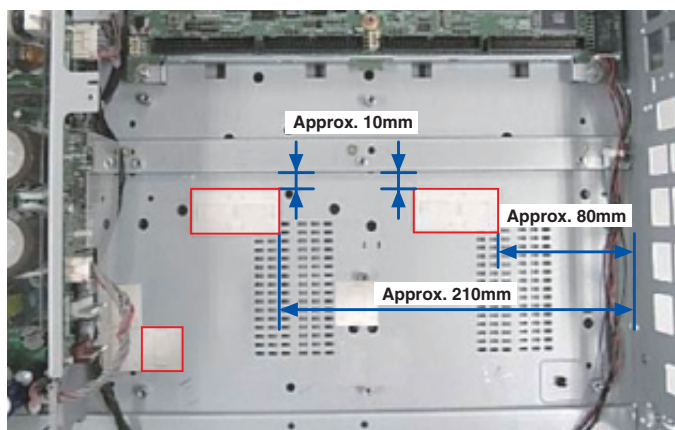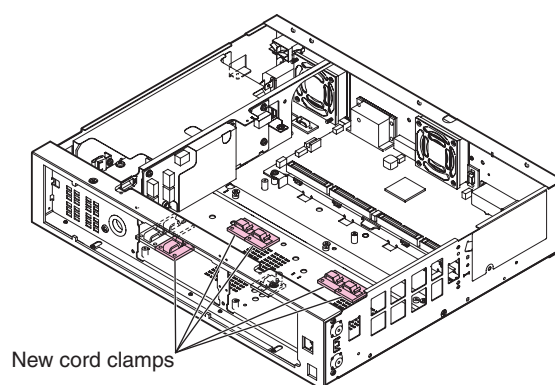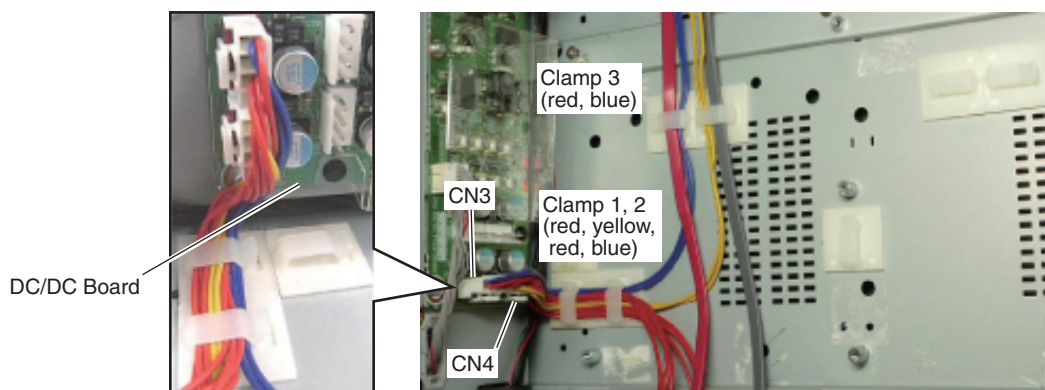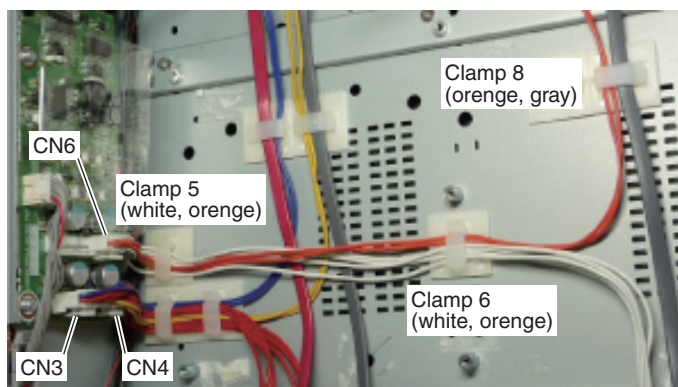
(24) Connect the power cables (red, yellow) to the CN4 of DC/DC board, and pass them through the clamps 1, 2, 4 as shown right.
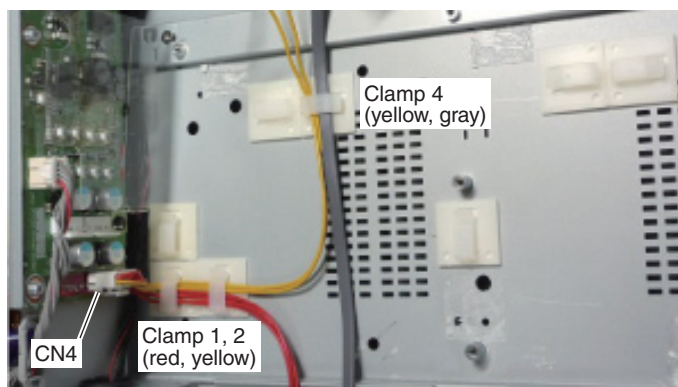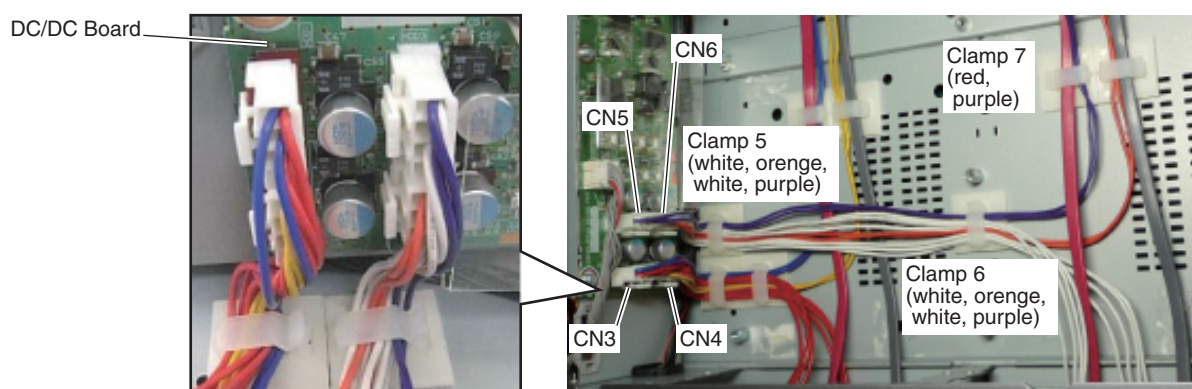

(25) Connect the power cables (red, blue) to the CN3 of DC/DC board, and pass them through the clamps 1, 2, 3 as shown below.


(26) Connect the power cables (white, orange) to the CN6 of DC/DC board, and pass them through the clamps 5, 6, 8 as shown right.
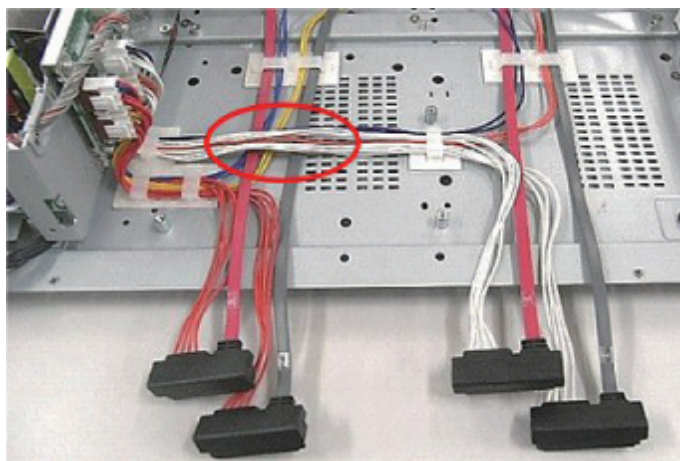

(27) Connect the power cables (white, purple) to the CN5 of DC/DC board, and pass them through the clamps 5, 6, 7 as shown below.

(28) Adjust the length of SATA cables and secure them as shown below.

for HDD1

for HDD3

for HDD4

for HDD2

Common to left and right

Approx. 30mm

Approx. 50mm
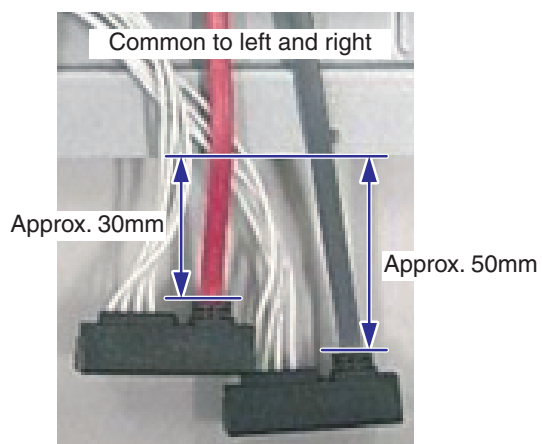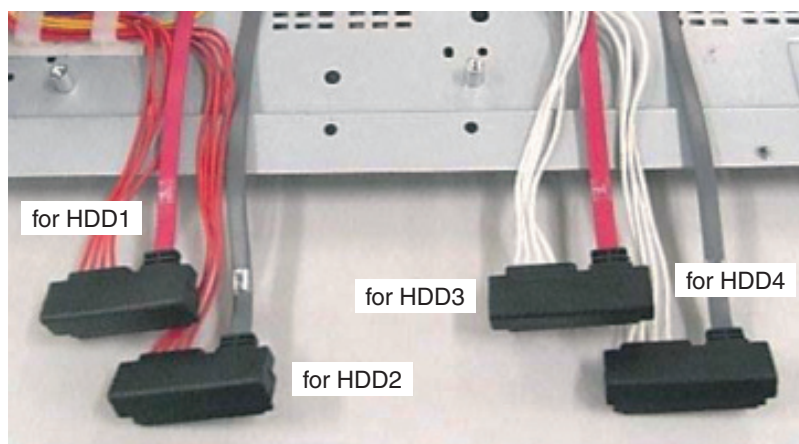
(29) Make the cables flat at an intersection as shown right.


(30) Insert convex portions of bottom plate into the holes in the main unit chassis, and secure it with ten screws (7x wafer-head screw, 3x binding screw).

(31) Insert convex portions of three HDD rails into the holes in the bottom plate, and secure them with two screws each.
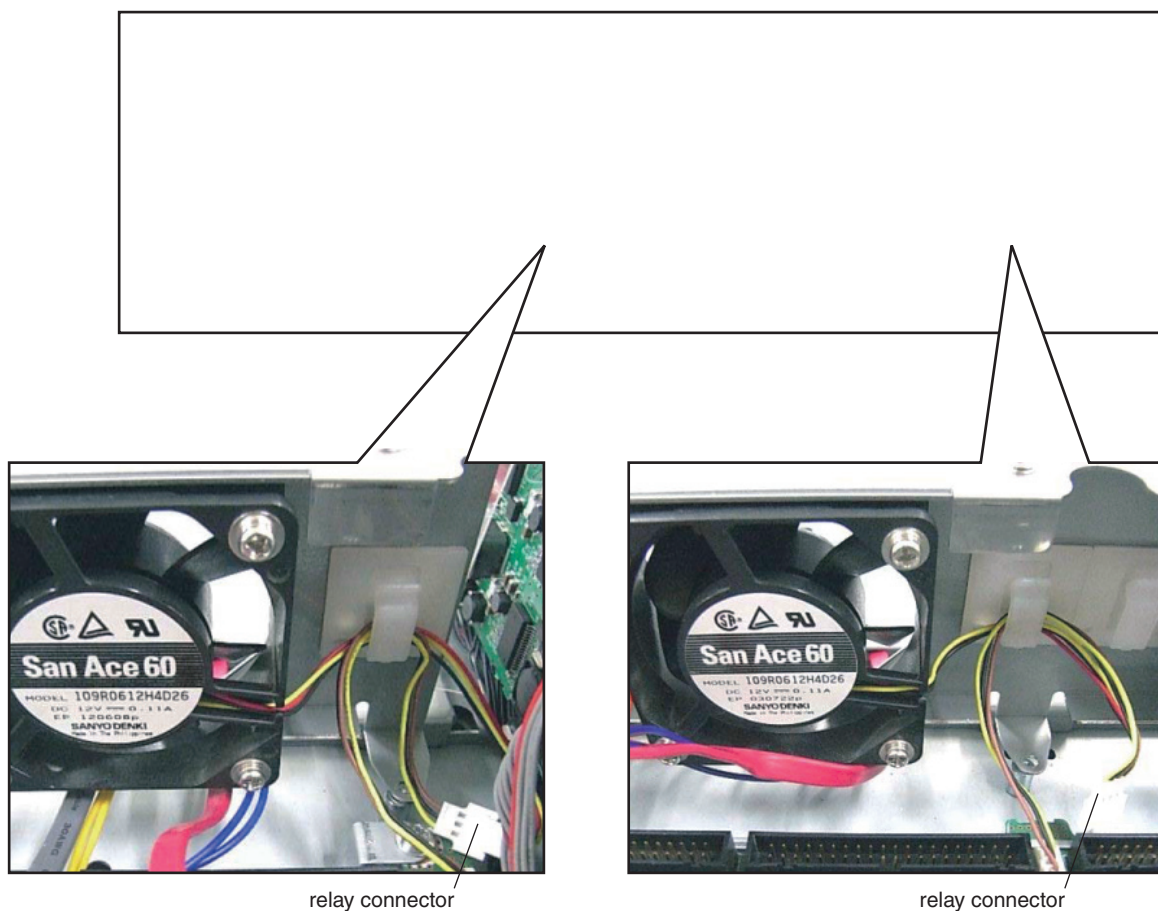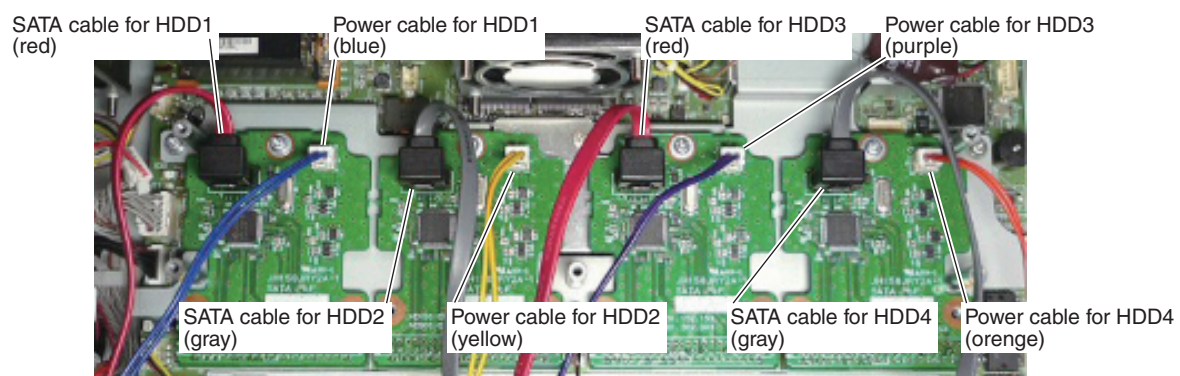
Note: Beware of cables
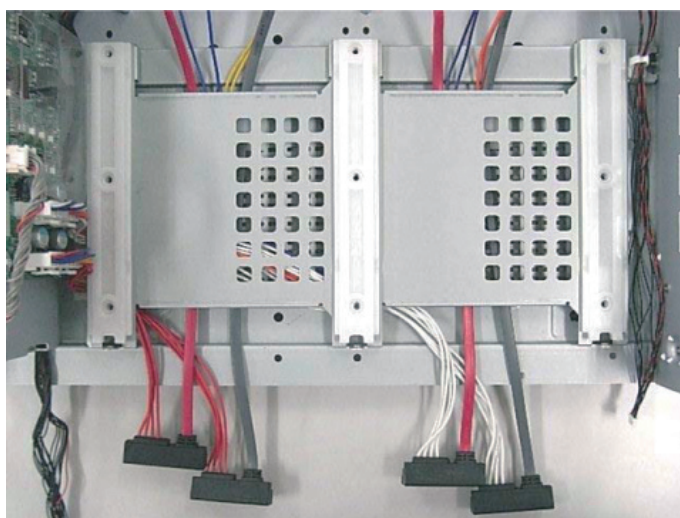
(32) Fix HDD fan assemblies with five screws (3x wafer-head screw, 2x screw with washer), and connect each HDD fan connector to the Main board.


screw with washer

wafer-head screw

HDD Fan Ass'y

wafer-head screw
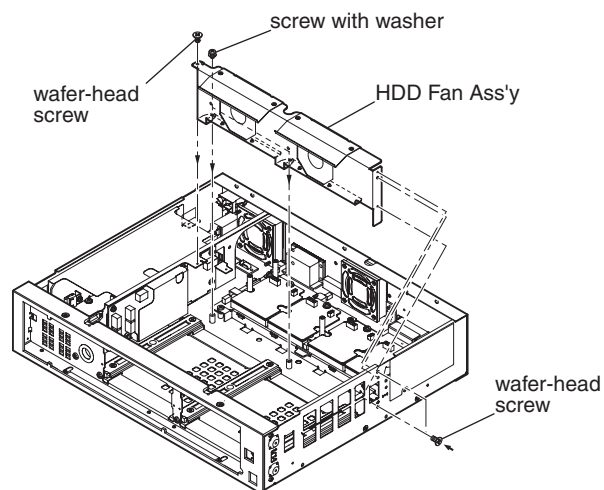
(33) Connect the Junction connectors of each fan, and pass them through the clamps as shown below.

relay connector

relay connector

(34) Connect the SATA cables and power cables to each SATA boards as shown below.

SATA cable for HDD1 (red)

Power cable for HDD1 (blue)

SATA cable for HDD3 (red)

Power cable for HDD3 (purple)

SATA cable for HDD2 (gray)

Power cable for HDD2 (yellow)

SATA cable for HDD4 (gray)

Power cable for HDD4 (orenge)

(35) Pass the SATA cables and power cables through the clamps and fasten them with two cable ties as shown below.

cable tie

cable tie
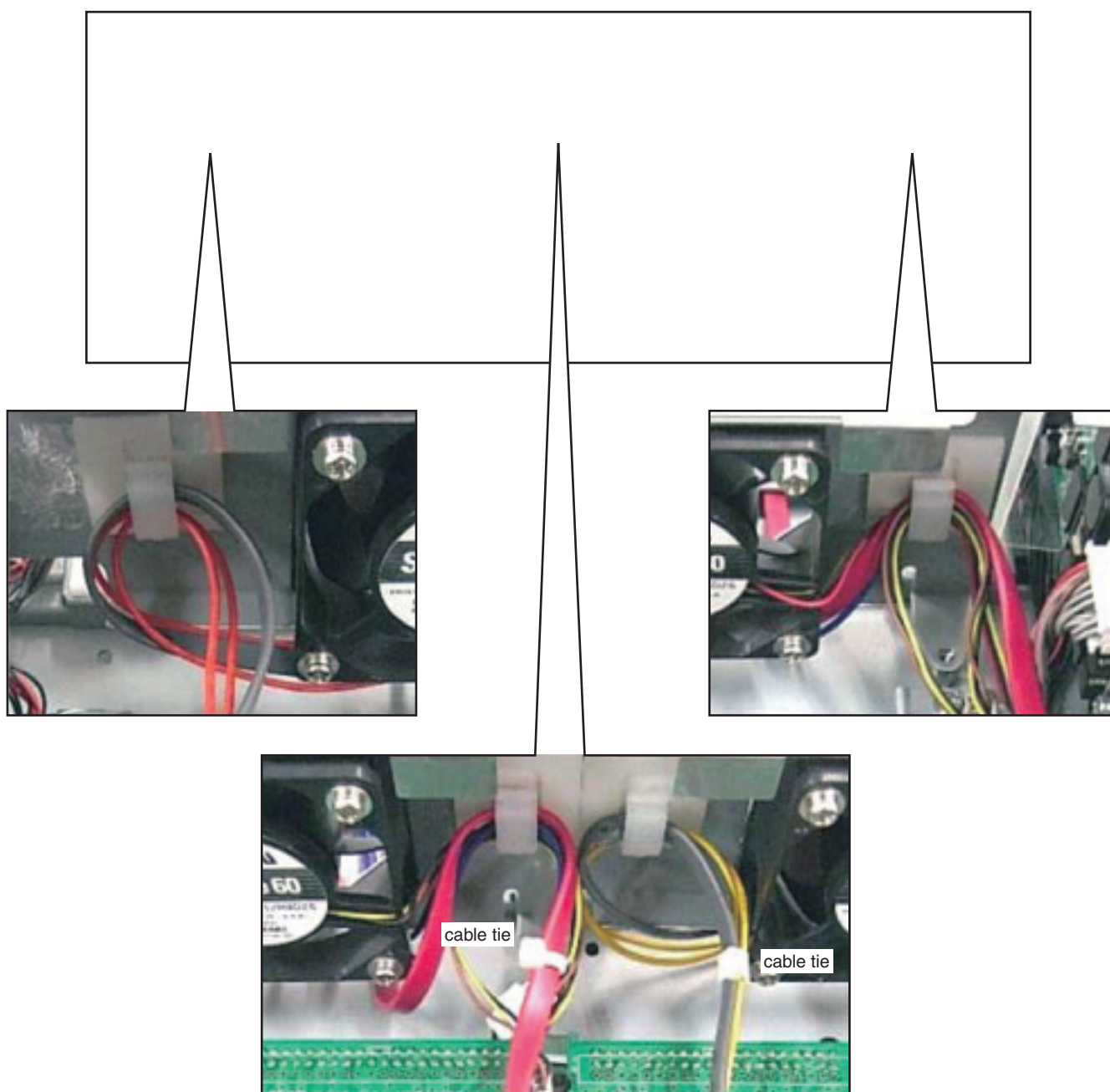
(36) Install new HDDs on the HDD mounting brackets with four screws each. Refer to the "Operating Instructions" for detail.

Notes:
When disconnecting the ATA cables, pull the pull-ring slowly and straightforward.
SATA HDD's do not require jumper configuration.
Install the HDD, board side facing down and the connectors pointing toward the front.
Take care not to deform the dampers when installing the HDD.

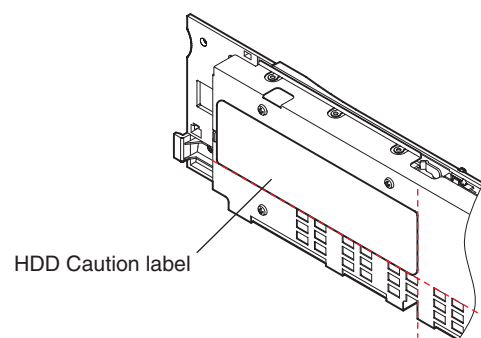(37) Install the HDD unit in the reverse order of the removal.

(38) Connect the SATA cables to the HDDs as shown right. Make sure that the connectors have been inserted completely.


SATA cable for HDD2 (gray)
SATA cable for HDD4 (gray)
SATA cable for HDD1 (red)
SATA cable for HDD3 (red)
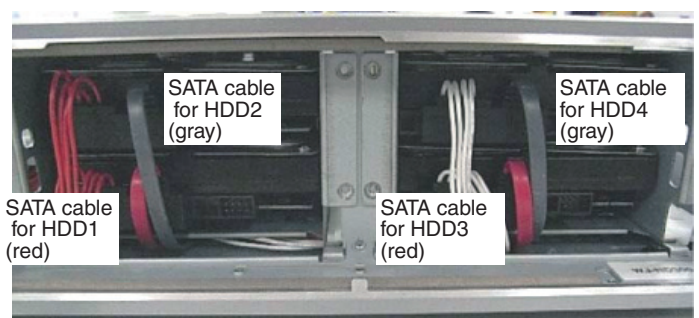
(39) Attach the SATA Cable label to the specified location on the front panel chassis.

SATA Cable label
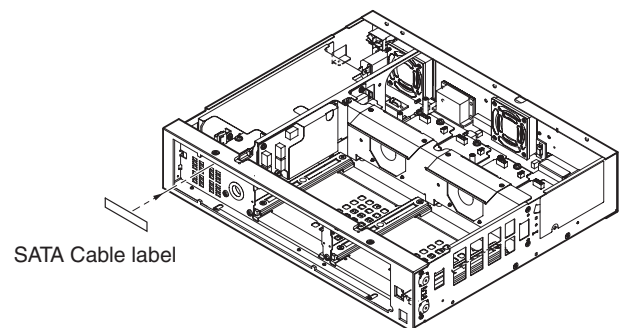
(40) Remove HDD Caution label from the Front panel Ass'y, and attach new HDD Caution label.
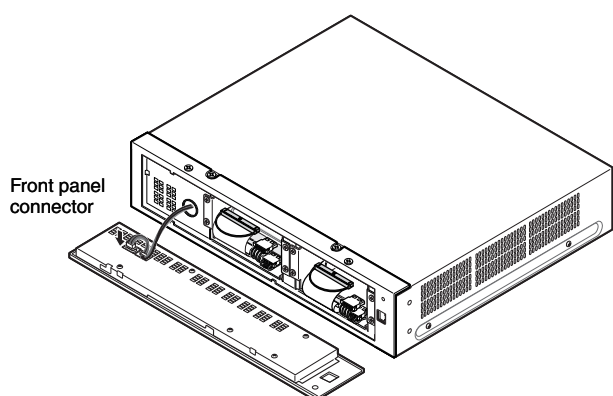

HDD Caution label

(41) Attach the Caution label to the specified location on the HDD unit.

Caution label
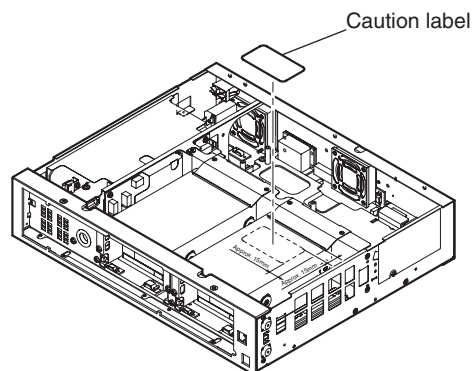
(42) Install the top cover on the main unit with 11 screws.

(43) Connect the connector to the front panel and fix the front panel with one screw in the reverse order of the removal.

Front panel connector

Screw

Connectorscover
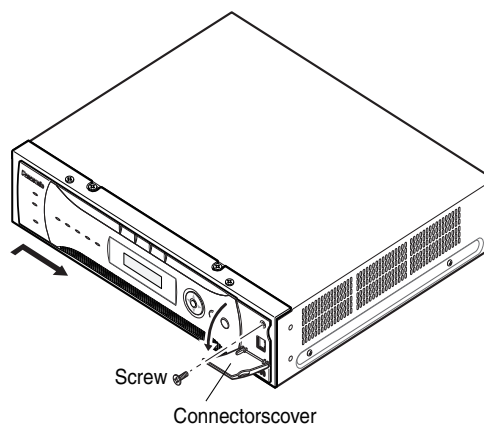
(44) Attach the SATA label, large (for top) to the top panel.
Attach the SATA label, small (for front) to the front panel.

7-10mm

3-5mm

SATA label(for top)

SATA label(for front)
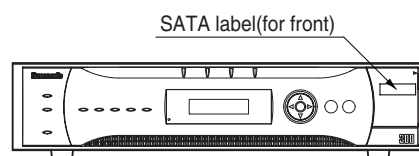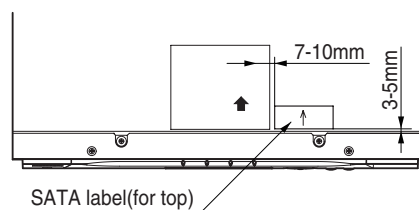
Note:
The new HDDs need to be formatted before operation. Refer to the Operating Instructions for detail.

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